

## **PCT**

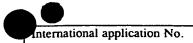
## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference CML00596JC		FOR FURTHER ACTION		form PCT/ISA/220) as well as, where applicable, low.			
International application No. PCT/US04/02614		International filing date (day/month/year) 30 January 2004 (30.01.2004)		(Earliest) Priority Date (day/month/year) 31 January 2003 (31.01.2003)			
Applicant MOTOROLA , INC.							
This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.							
This international search report consists of a total of sheets.  It is also accompanied by a copy of each prior art document cited in this report.							
Basis of the Report     With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.							
the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).  b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:							
	contained in the international	al application in written form.					
	filed together with the interes	national application in computer re	adable form	ı <b>.</b>			
	furnished subsequently to th	is Authority in written form.					
	furnished subsequently to th	is Authority in computer readable	form.	•			
	the statement that the subsectinternational application as		listing does	s not go beyond the disclosure in the			
	the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.						
2.	Certain claims were found	unsearchable (See Box I).					
3.	Unity of invention is lacking	ng (See Box II).					
4. With re	gard to the title,	P .					
	the text is approved as subm						
	the text has been established	l by this Authority to read as follow	ws:				
5. 'ith rep	gard to the abstract.						
	the text is approved as submitted by the applicant.						
	the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.						
6. The figu	are of the drawings to be pul	blished with the abstract is Figure	No. <u>1</u>				
	as suggested by the applicar	nt		None of the figures			
	because the applicant failed	to suggest a figure.					
	because this figure better ch	aracterizes the invention.					

Form PCT/ISA/210 (first sheet) (July 1998)





PCT/US04/02614

## Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

## **NEW ABSTRACT**

To provide high-quality communication even when the power for synchronization preamble is reduced in an OFDM communication system, an OFDM communication transmitter obtains a zero amplitude reduced preamble signal by passing a specified synchronization preamble through an ideal low-pass filter (10) to reduce a signal component near zero amplitude within a time domain and time-multiplexes (11) the obtained zero amplitude reduced preamble signal with transmit data to generate an OFDM transmit signal. A receiver section (20) of the OFDM communication system determines the cross correlation (19) between a receive signal and a specified synchronization preamble (17), which is patterned the same as the counterpart in a transmitter section of the OFDM communication system, and detects a synchronization position in accordance with the determined cross correlation.

Form PCT/ISA/210 (continuation of first sheet(2)) (July 1998)



International application No.

PCT/US04/02614

A. CLASSIFICATION OF SUBJECT MATTER  IPC(7) : H04L 27/28; H04K 1/10  US CL : 375/260; 370/210  According to International Patent Classification (IPC) or to both national classification and IPC							
B. FIELDS SEARCHED							
Minimum documentation searched (classification system followed by classification symbols) U.S.: 375/222, 260, 295, 354, 365, 368; 370/208, 210							
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched							
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet							
C. DOC	UMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where ap		Relevant to claim No.				
Α	US 2001/0022810 A1 (JOO) 20 September 2001 (20.	.09.2001), entire document.	1-10				
<b>⊬A</b>	US 6,381,251 B1 (SANO et al) 30 April 2002 (30.04	5-10					
A, P	US 6,658,063 B1 (MIZUGUCHI et al) 02 December	5-10					
	documents are listed in the continuation of Box C.	See patent family annex.					
	pecial categories of cited documents:  t defining the general state of the art which is not considered to be	"T" later document published after the inte date and not in conflict with the applie principle or theory underlying the inve	cation but cited to understand the				
of particular relevance		"X" document of particular relevance; the considered novel or cannot be considered.					
	plication or patent published on or after the international filing date	when the document is taken alone					
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		"Y" document of particular relevance; the considered to involve an inventive ste combined with one or more other such	p when the document is				
"O" document referring to an oral disclosure, use, exhibition or other means		being obvious to a person skilled in th	e art				
	published prior to the international filing date but later than the ate claimed	"&" document member of the same patent family					
Date of the actual completion of the international search		Date of mailing of the international search report  19 AUG 2004  Authorized officer  Betsy L. Deppe  Telephone No. (708) 305-4700					
21 July 2004 (21.07.2004)		13 700 2001					
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	nmissioner for Patents	Betsy L. Deppe & Klinch					
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l .	xandria, Virginia 22313-1450 b. (703) 305-3230						

Form PCT/ISA/210 (second sheet) (July 1998)





Continuation of	В.	<b>FIELDS</b>	SEAR	CHED	Item	3:
EART GIODAY. T	CD	CD-L IDO	. EDO.	D		

EAST (USPAT: USPGPub; JPO; EPO; Derwent)
OFDM or multicarrier or multitone or DMT: low pass filter; synchronization; correlat\$4; preamble